

## ABSTARCT OF THE DISCLOSURE

The present invention provides a digital spread spectrum frequency synthesizer that comprises a noise-shaped quantizer, a divider and an adjustment means. The noise-shaped quantizer is used to quantize a period control word to a time-varying value. The divider is used for generating an output signal by means of dividing a reference signal by the time-varying value, the output signal feeding back to the noise-shaped quantizer so that the noise-shaped quantizer generates the time-varying value in response to the feedback output signal. The adjustment means is used to adjust the period control word by a period offset in response to the output clock. Accordingly, the frequency synthesizer of the present invention can provide a very precise frequency synthesizer featuring a precision spread spectrum clock and jitter stability as well.